AMENDMENTS TO THE CLAIMS

Claims 1-7. (canceled)

Claim 8. (New) A method for generating a synchronization preamble signal comprising OFDM symbols, the method comprising the steps of:

generating at least one OFDM symbol by modulating 12 subcarriers of an OFDM scheme according to the following sequence:

$S_{-26,26} = N * \{0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, 0, 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (1+j), (1+j), 0, 0, 0, (1+j), 0, 0\}$

where N is a normalization factor; and

inverse Fourier transforming the generated OFDM symbol thereby generating a time domain signal.

Claim 9. (New) The method according to claim 8, wherein the step of inverse Fourier transforming comprises a step of applying a 64-point inverse fast Fourier transform (IFFT) to the sequence S, with the remaining 15 input values to the IFFT being set to zero.

Claim 10. (New) The method according to claim 8, further comprising a step of cyclically extending the time domain signal.

Claim 11. (New) A device for generating a synchronization preamble signal comprising OFDM symbols, comprising:

means for generating at least one OFDM symbol by modulating 12 subcarriers of an OFDM scheme according to the following sequence:

$S_{-26,26} = N * \{0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, 0, 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (1+j), (1+j), 0, 0, 0, (1+j), 0, 0\}$

wherein N is a normalization factor; and

means for inverse Fourier transforming the generated OFDM symbol thereby generating a time domain signal.

Claim 12. (New) A method for synchronizing a receiver of an OFDM transmission system, the method comprising the following steps:

receiving a preamble signal;

autocorrelating the received preamble signal, wherein the preamble signal has been obtained by generating at least one OFDM symbol by modulating 12 subcarriers of an OFDM scheme according to the following sequence:

$S_{-26,26} = N * \{0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, 0, 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (1+j), (1+j), 0, 0, 0, (1+j), 0, 0\}$

where N is a normalization factor; and

inverse Fourier transforming the generated OFDM symbol thereby generating a time domain signal.

Claim 13. (New) An OFDM receiver, comprising means for receiving and means for autocorrelating; the receiving and autocorrelating means being designed for a preamble signal obtainable by the following steps:

generating at least one OFDM symbol by modulating 12 subcarriers of an OFDM scheme according to the following sequence:

$S_{-26,26} = N * \{0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, 0, 0, 0, 0, (-1-j), 0, 0, 0, (-1-j), 0, 0, 0, (1+j), 0, 0, 0, (1+j), (1+j), 0, 0, 0, (1+j), 0, 0\}$

where N is a normalization factor; and

inverse Fourier transforming the generated OFDM symbol.